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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Sharon Christine Davis

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EXAMINER

GRABOWSKI, KYLE ROBERT

ART UNIT

PAPER NUMBER

3725

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,846	<b>Applicant(s)</b> DAVIS ET AL.	
	<b>Examiner</b> Kyle Grabowski	<b>Art Unit</b> 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

1. This non-final action is in response to the RCE filed on 07/31/09 and claims filed on 07/10/09.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-5, 7-21, 25-26, 29-31, 33, and 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059) in view of Adamczyk et al. (US 2004/0050269).

5. In respect to claims 1 and 15, Hutton et al. disclose a security device comprising:  
a security device comprising a substrate 31 having a reflective portion which is provided

Art Unit: 3725

with a raised line structure, the line structure defining a plurality of segments 32 and 36, each segment being formed by a respective set of substantially parallel raised lines 33 and 37 (Fig. 7), the lines of at least three segments extending in different directions (Fig. 16, shows that three segments can be utilized), each line being formed by or carrying an ink which does not extend fully into the spaces between the lines or which is sufficiently translucent between the lines so as not to obscure the reflective surface between the lines, wherein each segment causes incident light to be reflected non-diffractively in a variable manner as the angle of incidence changes. (Col. 13, 14-28)

6. Hutton et al. substantially disclose the claimed subject matter for the reasons stated above including that the paper (reflective surface) may be printed with a light ink as long as it contrasts with the intaglio ink (Col. 14, 31-36) but do not disclose that the reflective portion of the paper substrate may contain, for example, a metallic ink, however Adamczyk et al. teaches that a metallic ink can be used for a background print in a similar invention (0024) that utilizes inked intaglio printing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the light ink taught in Hutton et al. as a metallic ink in view of Adamczyk et al. to provide an additional anti-forgery effect that is difficult to imitate (Adamczyk et al., 0024).

7. In respect to claims 2-5, 7-11, and 16, Hutton et al. further disclose that the parallel lines may be comprise straight lines, having the same width (Col. 13, 15-21); the parallel lines may also be discontinuous and extend in different directions in each segment, the segments abutting each other and defining geometric shapes that are

nested within the others and may altogether for an “image” such as alphanumeric indicia (i.e. 61, 62, 64, Fig. 16);

8. In respect to claims 12 and 13, Hutton et al. further disclose the raised line structure is produced by an inked intaglio (embossing) process wherein the ink contrasts with the color or the substrate (Col. 3, 30-33).

9. In respect to claim 14, Hutton et al. substantially disclose the claimed subject matter for the reasons stated above but do not disclose parts of the raised line portion being uninked however Adamczyk teaches that specifications of the engraving plate (0018) can yield varying ink widths (0028), resulting for example, in the cross section shown in Figure 4, which features a line embossment that provides uninked portions on its outer bounds. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the security device taught in Hutton et al. with less ink in the intaglio plate, or to vary specifications of the intaglio plate, to provide for an embossed line with uninked regions in view of Adamczyk to save ink consumption which is one of the major aims of the invention (0007). The claim would have also been obvious because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary common sense.

10. In respect to claims 17-19, Hutton et al. further disclose the frequency of the lines in lines per inch is preferably between 100 and 200 (Col. 8, 28-31), which when the lines and spacing between lines being substantially equal (Col. 4, 55-63), corresponds

Art Unit: 3725

to a line width and spacing width each having an identical width between 0.0025 and 0.005 inches (63.5 - 127 microns), which of course also corresponds to a line width to space ratio of 1:1.

11. In respect to claim 20, Hutton et al. further disclose the raised line structure extends beyond the reflective portion if one selects a portion within the line structure to denote the "reflective portion"

12. In respect to claim 21, Hutton et al. further disclose the reflective portion extends beyond the raised line structures on border 60 (Fig. 16).

13. In respect to claims 25-26 and 29, Hutton et al. further disclose the paper may be a paper document of value (Col. 8, 35), the raised line structure comprising a security device adhered by the intaglio process. Also banknotes are widely known documents of value to employ intaglio printing thereon (Col. 1, 20). Furthermore, denoting the document of value as a banknote is only an intended use of the invention.

14. In respect to claims 30-31, 33, and 35, Hutton et al. disclose the manufacture of the security element for the reasons stated above. The intaglio process is preformed with an intaglio plate having engraved ink-bearing recesses which define the line structure (Col. 15, 38 – Col. 16, 5).

15. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059) and Adamczyk et al. (US 2004/0050269), as applied to claim 1 above, and in view of Bayha (US 3,471,172). Hutton et al. and Adamczyk et al.

Art Unit: 3725

substantially disclose the claimed subject matter for the reasons stated above including that the sections may be any desired shape (Col. 14, 21-26) but do not explicitly disclose that the different segments are of the same shape however Bayha teaches a similar security device which utilizes segments of raised lines with similar reflection characteristics of the present invention wherein hexagons shapes comprise different segments with different raised line directions (Col. 4, 30-41; Fig. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the security device taught in Hutton et al. and Adamczyk et al. with equal shapes, for example, hexagons, in view of Bayha to provide shapes that allow for precise positions of accurate rotation and discrete angular value for each unit (Bayha; Col. 4, 30-41).

16. Claims 22-24, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059) and Adamczyk et al. (US 2004/0050269), as applied to claims 1 and 30 above, and in further view of Mayer et al. (US 2003/0145747).

Hutton et al. and Adamczyk et al. substantially disclose the claimed subject matter for the reasons stated above but do not disclose a printed border formed in register with the raised line structure using the same printing plate however Mayer et al. teaches a method of intaglio using both relieflike elements and flat elements on the same printing plate to produce the relieflike and flat elements in register (0010-0011; Fig. 4); the flat printed elements 2 bordering the raised relieflike lines 5 (Fig. 1); It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the security device taught in Hutton et al. and Adamczyk et al. with additional features

Art Unit: 3725

on the printing plate to produce two superimposed pieces of information in exact register from the same printing plate in view of Mayer et al. to hinder attempts at reproduction (Mayer et al., 0015). Mayer et al. also teaches an advantage of altering the light/dark contrast between the relieflike and flat elements and it would have been obvious to one of ordinary skill in the art at the time the invention was made to

17. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059) and Adamczyk et al. (US 2004/0050269), as applied to claim 1 above, and in further view of Heckenkamp et al. (US 5,433,807). Hutton et al. and Adamczyk et al. substantially disclose the claimed invention for the reasons stated above except for the security device being a separate entity applied to the document of value however Heckenkamp et al. teaches that the transfer method is a known method for applying security devices to banknotes (Col. 5, 1-28) and it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the security device taught in Hutton et al. and Adamczyk et al. with means for transfer via the transfer method in view of Heckenkamp et al. for many advantages well known in the art for the transfer method for example, producing the security device and banknote separately, and bonding the device securely to the bank note such that attempts at removal would destroy the document.

18. Claims 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059) and Adamczyk et al. (US 2004/0050269). Hutton et al.



Art Unit: 3725

and Adamczyk substantially disclose the claimed invention for the reasons stated above but do not explicitly disclose the lines of at least five segments extending in different directions however Hutton et al. does disclose a plurality of three segments, wherein the difference in angles is 60 degrees (Col. 47-54) and further, that a discernable contrast can be appreciated at angles as low as 30 degrees (Col. 14, 37-51) and therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to make lines of at least six segments (and therefore at least five) extending in different directions (i.e. 30 degrees apart: 0, 30, 60, 90, 120, and 150 degrees) as Hutton et al. suggests is possible (Col. 14, 40-62).

19. Claims 1-5, 7-13, 16-21, 25-31, 33, and 35, are additionally rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059). Hutton et al. discloses all the claimed subject matter for the reasons stated above but does not explicitly disclose any degree of specular reflectivity of the paper substrate however it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a metallic foil (as an "other underlying substrate", Col. 3, 32-33) since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

***Response to Arguments***

20. Applicant's arguments with respect to claims 1-36 have been considered but are moot in view of the new ground(s) of rejection. As in claim 15 rejection of the previous office action, Adamczyk et al. teaches providing metallic ink as coverage for the paper; the rejection has now been applied to all the claims in view of the newly amended matter. The arguments germane to Hutton et al. will be addressed:

21. The applicant argues that the raised lines of Hutton are provided on an essentially diffuse surface (rebutting that the surface is at least somewhat specular depending on the type or color of ink used) however the examiner respectfully asserts that the applicant has confused the term "background" as disclosed in Hutton.

22. It appears that "background" was taken to be synonymous with the substrate on which the raised lines are printed, however this is not the case. In Hutton the "background" is a *region* 15 wherein *both* the substrate and raised lines are present outside of the image portion 12 (Fig. 1) (the image portion also comprises both the raised lines and the substrate). The image portion and the background region (both comprising the substrate covered with raised lines) lack contrast because the occluding effect of the lines aren't present at a normal view (i.e. the white substrate and black ink are substantially prominent in both regions and subsequently they both look equally gray).

23. Because the attorney incorrectly correlates the "background" with the substrate, the argument that "there is no contrast between the image [construed to be the raised

Art Unit: 3725

lines] and the background [construed to be the substrate] indicates that the raised lines in Hutton are provided on an essentially diffuse surface" is grounded on a confused use of terms. Also, it is said that Hutton "provides a region devoid of contrast" however this is untrue as Hutton explicitly states that the substrate and ink should contrast (e.g. a black substrate and white ink) (Col. 14, 31-37).

24. Finally the difference between a highly reflective (e.g. white ink printed surface) taught in Hutton et al. and a metallic surface is believed to be an obvious material choice or, alternatively, obvious in view of the teachings of Adamczyk et al.

### ***Conclusion***

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle Grabowski whose telephone number is (571)270-3518. The examiner can normally be reached on Monday-Thursday, every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on (571)272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3725

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kyle Grabowski/  
Examiner, Art Unit 3725

/Dana Ross/  
Supervisory Patent Examiner, Art  
Unit 3725